EDITORIAL

Science is neither red nor blue

Marcia McNutt is president of the United States National Academy of Sciences, Washington, DC,USA. mmcnutt@nas.edu

Long before the 5 November US presidential election, I had become ever more concerned that science has fallen victim to the same political divisiveness tearing at the seams of American society. This is a tragedy because science is the best—arguably the only—approach humankind has developed to peer into the future, to project the outcomes of various possible decisions using the known laws of the natural world. Since the founding of the National Academy of Sciences (NAS) during the Civil War, the most divisive period in US history, science and the NAS (of which I am the current president) have consistently served the nation, regardless of the political party in power. As the scientific community continues to do so now, it must take a critical look at what responsibility it bears in science becoming politically contentious, and how scientists can rebuild public trust.

For starters, scientists need to better explain the norms and values of science to reinforce the notion—with the public and their elected representatives—that science, at its most basic, is apolitical. Careers of scientists advance when they improve upon, or show the errors in, the work of others, not by simply agreeing with prior work. Whether conservative or liberal, citizens ignore the nature of reality at their peril. A recent example is the increased death rate from COVID-19 (as much as 26% higher) in US regions where political leaders dismissed the science on the effectiveness of vaccines. Scientists should better explain the scientific process and what makes it so trustworthy, while more candidly acknowledging that science can only provide the best available evidence and cannot dictate what people should value. Science cannot say whether society should prioritize allocating river water for sustaining fish or for irrigating farms, but it can predict immediate and long-term outcomes of any allocation scheme. Science can also find solutions that avoid the zero-sum dilemma by finding conservation approaches to water management that benefit both fish and farms.

In addition, the National Academies of Sciences, Engineering, and Medicine need to examine how scientists may have contributed to the polarization of the use of science. Although scientists must never shirk their duty to provide the foundation of evidence that can guide policy decisions and to defend science and scientists from political interference, they must avoid the tendency to imply that science dictates policy. It is up to elected officials to determine policy based on the outcomes desired by their constituents. It is the role of science to inform these decision-makers as to whether those desired outcomes are likely to result from the policies being enacted.

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The scientific community must also better recognize that it may not be helpful to emphasize consensus in policy reports' recommendations when the underlying values are not universally shared. For example, although science can affirm that climate change is happening and is primarily caused by anthropogenic greenhouse gas emissions, science can only predict the outcome of the various policies that might be enacted to address the problem. It is up to society and its elected leadership to decide how to balance these options, including the use of renewable energy, climate adaptation, carbon capture, or even various interventions that reflect sunlight back into space.

Last month the NAS Council issued a statement reaffirming its core principles of objectivity, independence, and excellence. This commitment requires including viewpoints far beyond just those of academia in National Academies' advisory committees. Building trust will require more active listening to affected communities—for example, farmers, fishermen, and conservationists in the water example above. At the same time, the scientific community must fight scientific mis- and disinformation as though lives depended on truth and trust, because they do.

The public and policy-makers can discuss and debate how to respond to the myriad challenges that confront society, but these deliberations need to be informed by the objective, dispassionate evidence that only science can provide. To that end, the NAS stands ready, as it always has, to advise the incoming administration.

–Marcia McNutt

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